Installation & User Manual

Clamp Open Guard® Switch Activated Models for Komatsu

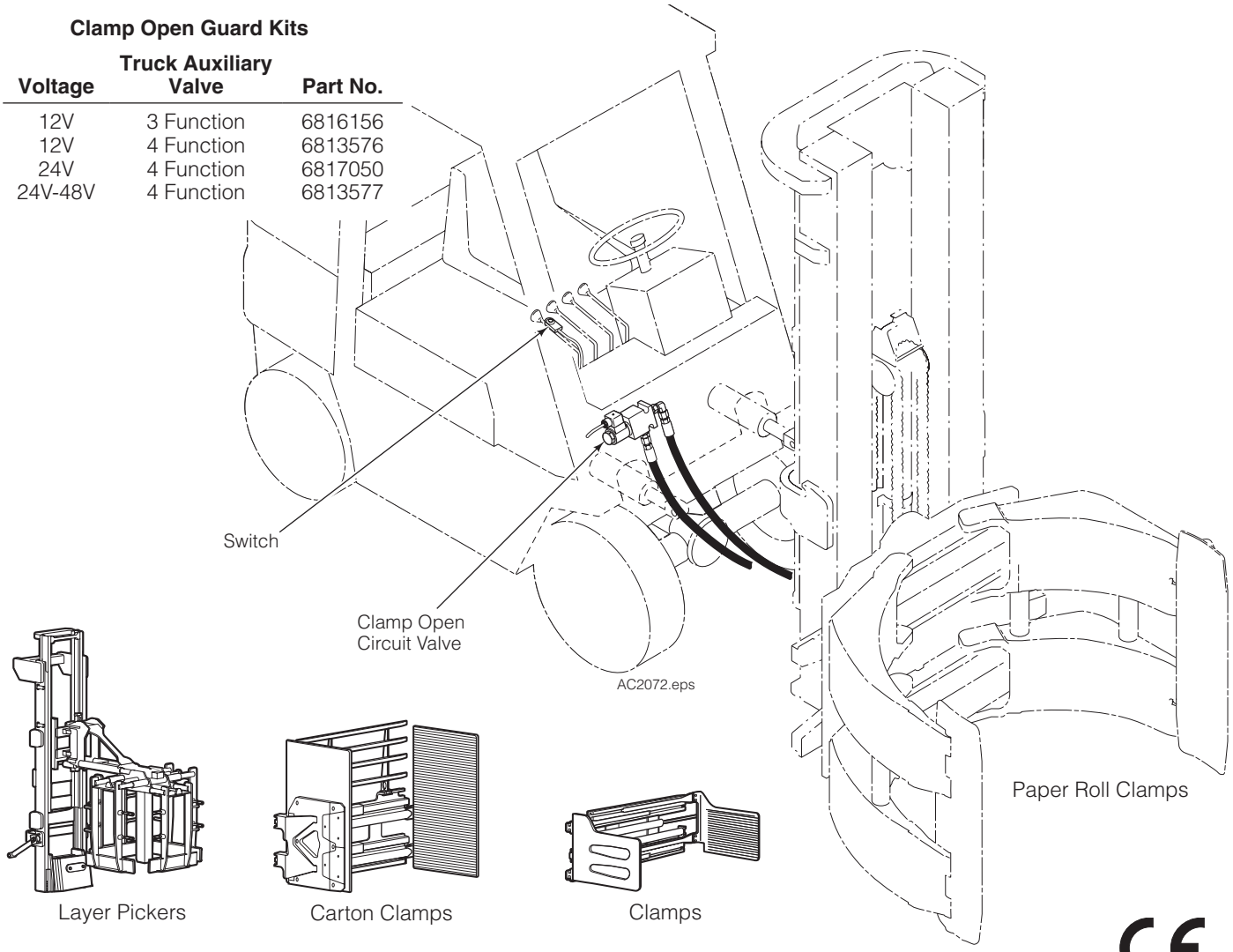
This manual provides installation instructions for Cascade Clamp Open Guard. The kit provides an added level of security to prevent accidental load dropping. Clamp Open Guard requires a definitive action by the driver to help prevent accidental unclamping. The kit is intended for use with all Cascade load bearing Clamps to conform with ANSI/ITSDF B56.1, Section 7.25.7.

NOTE: Kits are UL Classified (File # AU3546) for safety in Electric Battery (UL 583) and IC Engine (UL 558) Indust. Truck type E, ES, G, GS,G/LP/ GS/LPS, LP, LPS, D and DS.

NOTE: UL Classified Kits require installation by qualified personnel only without major disturbance, cutting, splicing or soldering of factory installed wiring.

Clamp Open Guard Kits

Voltage	Truck Auxiliary Valve	Part No.
12V	3 Function	6816156
12V	4 Function	6813576
24V	4 Function	6817050
24V-48V	4 Function	6813577



Part No. 6817283-R2

cascade® corporation

Cascade Corp.
File No. AU3546

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Installation

Perform by Qualified Personnel only.

1 Disconnect the cable from the positive battery terminal.

2 Locate and install the solenoid valve and spacer on the truck cowl using customer supplied .25 in. (6 mm) fasteners. Watch for clearance when the mast is tilt all the way back. The valve is being installed in the clamp OPEN line from the auxiliary valve to the attachment.

IMPORTANT: The valve must be installed in the open circuit ahead of any clamp line check valve pilot lines.

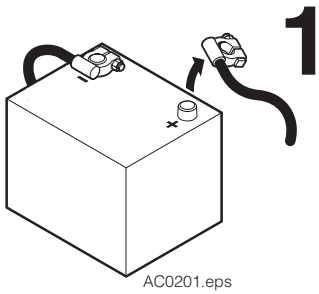
Do not install the coil adjacent to any RF or control devices/ electronics.

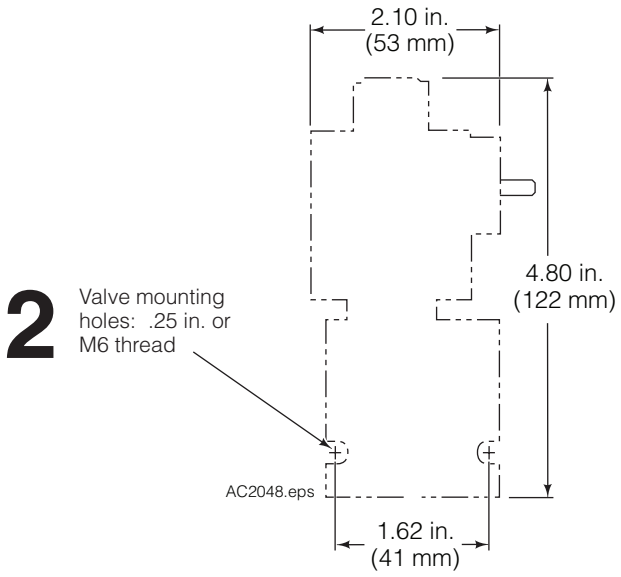
3 Connect control valve port 1 to the supply hose going to the attachment.

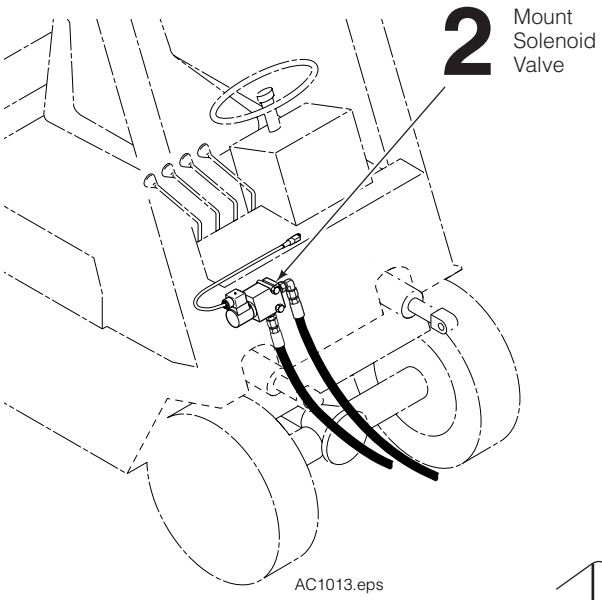
IMPORTANT: When installing the Clamp Open Guard with Cascade's Adaptive Force Control (AFC), the solenoid valve must be installed between the truck auxiliary valve and the AFC valve.

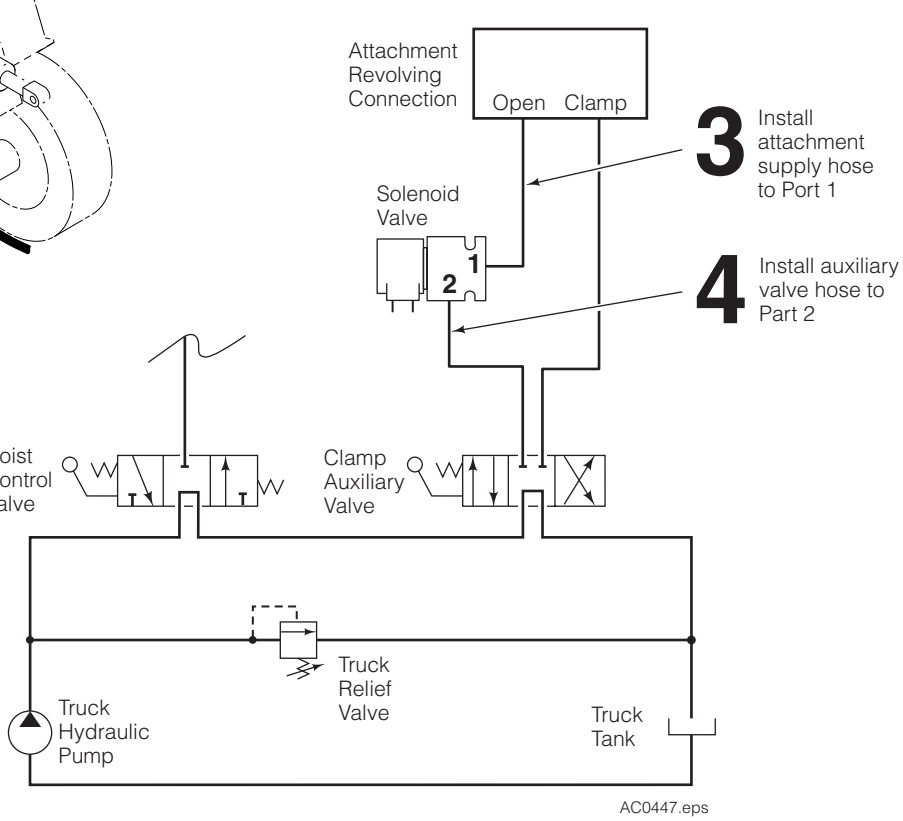
4 Connect solenoid valve port 2 to the supply hose from the truck auxiliary valve clamp OPEN line.

IMPORTANT: Verify by visual test, Installation steps 2, 3 and 4.





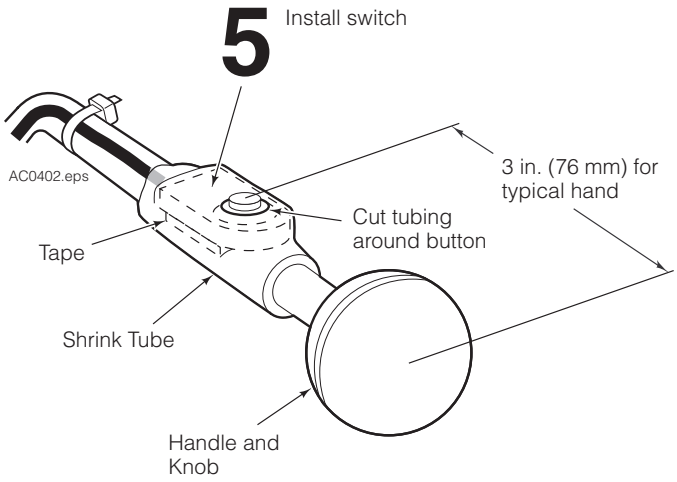




5 Install the switch to the clamp control lever.

Remove the control knob. Position the switch on the handle in a location for comfortable thumb or index finger operation. **IMPORTANT:** Place the double sided tape under the switch to secure the switch in place. Place the heat shrink tubing over the handle and switch. Using a heat gun, heat the tubing to secure the switch to the handle. Reinstall the knob. Install cable ties as needed for the wires. Avoid pulling, bending or pinching the switch wire.

NOTE: UL Classified Kits require installation by qualified personnel only without major disturbance, cutting, splicing or soldering of factory installed wiring.



CAUTION: Consult the Lift Truck OEM for proper + power source connection.

6 Connect cable ends to the components as shown.

12V Systems – Connect the fused power cable Deutsch connector to the corresponding connector provided on the truck (see truck manual).

24V Systems (No Connector) – Connect the fused power cable Deutsch connector to the corresponding connector provided on the truck (see truck manual).

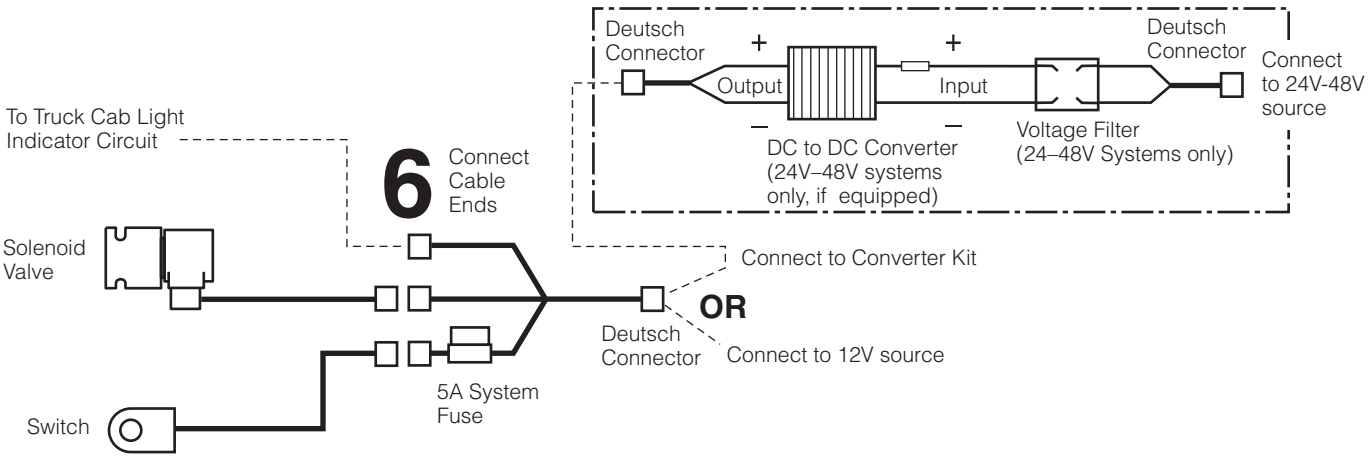
24V–48V Systems – Connect the power wire from the cable harness to a DC-to-DC converter output wire. Connect converter and voltage filter input wire to the Deutsch connect provided on the truck (see truck manual).

Check the cable routing for pinch points and clearance. Use wire ties as needed.

NOTE: When installing a DC/DC Converter on electric trucks, voltage filter 6061953 must be installed. Failure to install voltage filter can cause damage to electrical components.

> **WARNING**: To reduce risk of fire, replace only with the same type and ratings of fuse. The fused power cable is polarity sensitive. The positive wire must be connected to a positive power source.

7 Reconnect the positive battery terminal to the battery.



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Test and Adjustment

Perform by Qualified Personnel only.

1. Test the installation before putting the truck in service. When the truck key is turned ON, the Komatsu supplied indicator light should be off.
2. Press the button and observe that the indicator light turns on.
3. Hoist a load 1 in. off the ground. Operate the clamp open handle several times, the clamp should not open. Lower the load to the ground. Press the button to release the load. Verify that the indicator light is on while pressing the button.

Operation

WARNING: All operators must read this section.

Before operation, inspect the switch, indicator, valve, wiring and test operation daily.

Operators must have a thorough knowledge and understanding of the safe operation of the attachment with which the Clamp Open Guard is used.

The Clamp Open Guard provides an added level of security to prevent accidental load dropping per current ANSI standards. Clamp Open Guard requires a definitive action by the driver to help prevent accidental unclamping. It acts as a device to prevent accidental activation of the truck's clamp open circuit. The clamp is allowed to open when the switch is activated and the indicator light on.

- Press the switch button, then operate the truck clamp open control lever to open the clamp. When the indicator light is on, the clamp will open normally.
- If the clamp will not open when the button is pressed, set the load down, turn off the truck key and troubleshoot the system. Follow Test and Adjustment before returning to service.

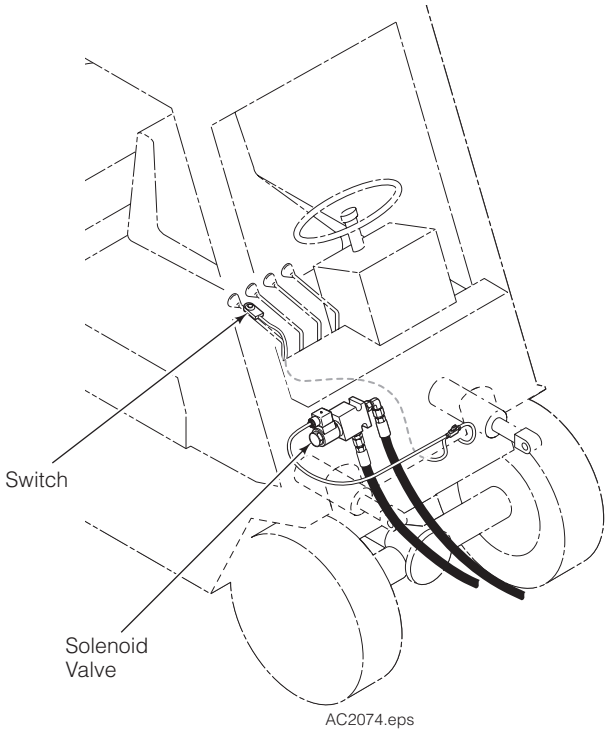
  NOTE: The system does not work like a drop stop valve that prevents carriage drop or jump when the clamp is opened. The indicator light does not indicate that the load has been lowered to its optimal position.

WARNING: Residual risk exists to personnel in the work area, operate only in compliance to facility standards.

Troubleshooting

Service only after reading this manual and by Qualified Personnel only.

- Check all system fuses.
- Verify VDC at switch connector.
- Check switch function (N/O switch).
- Check VDC at solenoid when switch is pressed.
- Check for VDC at Indicator Light when switch is pressed.

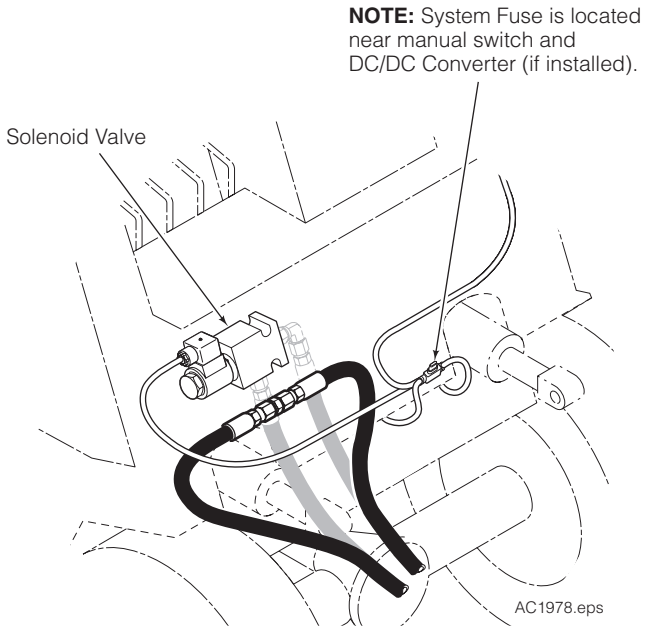


Temporarily Disabling System

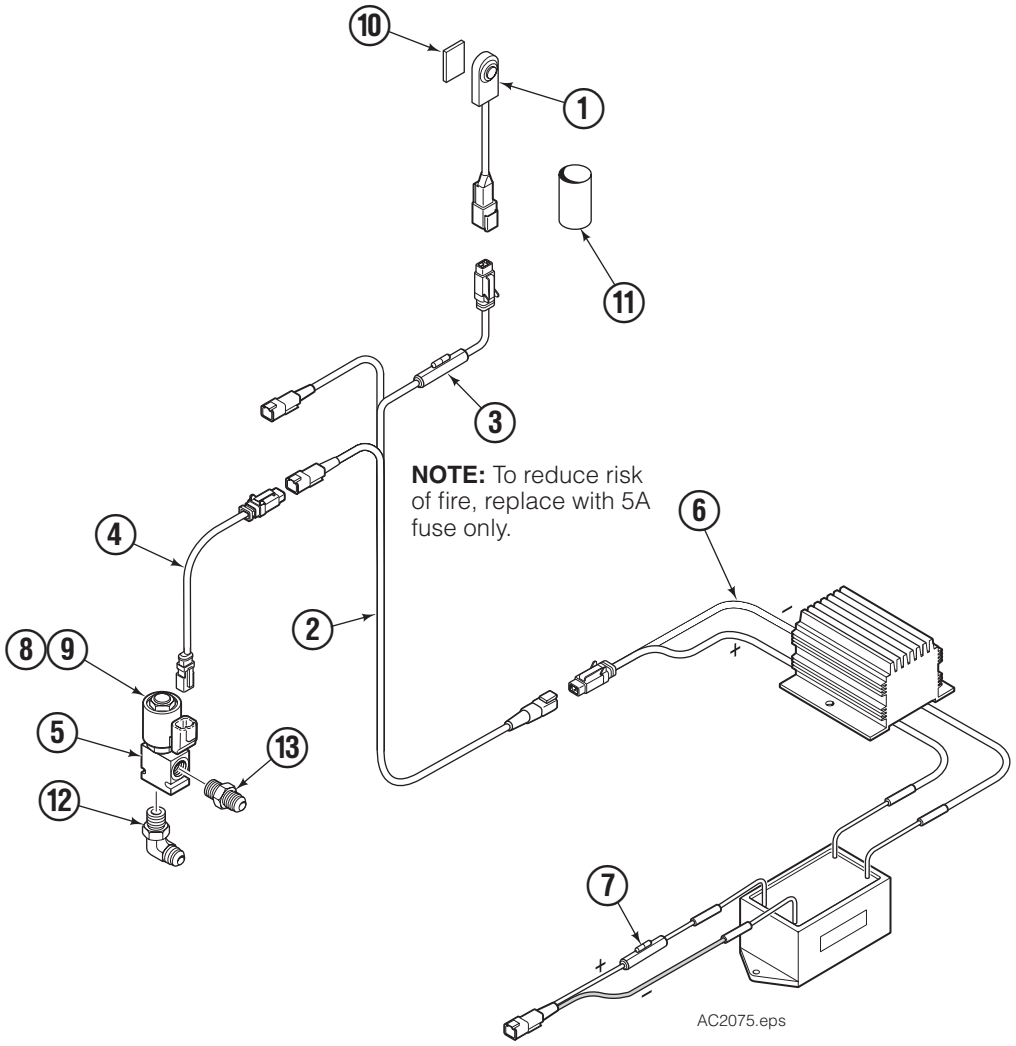
The Clamp Open Guard can be disabled by performing the following steps:

- Tag equipment as not operational. Do not operate when system is disabled or known to malfunction.
- Disconnect the two hose ends to the normally-closed solenoid valve and connect them together with a union.
- Remove the system power fuse in the cable harness to disable indicator light.

The truck and attachment will now operate without the Clamp Open Guard feature. To enable the Clamp Open Guard, reverse the above procedure.



Clamp Open Guard®



REF	QTY	12V, 3 Function ◆ PART NO.	12V, 4 Function ❖ PART NO.	24V, 4 Function ❖ PART NO.	24V-48V, 4 Function ❖ PART NO.	DESCRIPTION
		6816156	6813576	6817050	6813577	12V Clamp Open Guard
1	1	6816158	6814492	6814492	6814492	Switch Kit ■
2	1	6814493	6814493	6817048	6814493	Power Assembly ★
3	1	6806708	6806708	6806701	6806708	Fuse
4	1	6816157	6814490	6814490	6814490	Solenoid Cable Assembly
5	1	6813570	6813570	6817051	6813570	Solenoid Valve Assembly ●
6	2	—	—	—	6816343	Convertor Kit ▲
7	1	—	—	—	6806701	Fuse, 2A
8	1	6813569	6813569	6817047	6813569	Coil

◆ For trucks with 3 function auxiliary valve.
❖ For trucks with 4 function auxiliary valve.
■ Includes items 10 and 11.
★ Includes item 3.
● Includes items 8 and 9.
▲ Includes item 7.

Common Components

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
9	1	6020883	Solenoid Cartridge	12	1	601250	Fitting, 8
10	1	6014987	Adhesive Tape	13	1	601377	Fitting, 8-8
11	1	6001641	Shrink Tube				

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